GLOSSARY

A

A as acquired (attack guidance matrix)

AA artillery airburst (Firefinder mission type)

AC aiming circle

AD artillery datum plane (Firefinder mission type)

ADA air defense artillery

ADAM area denial artillery munitions

add a correction used by an observer or spotter to indicate that an increase in range along the observer-target line is desired.

adj adjust

adjust fire command that specifies all howitzer sections to follow the adjusting phase of a fire mission.

adjusted deflection a deflection based on firing and computed to place the center of impact of a round on target. This deflection can differ from chart deflection because of nonstandard conditions.

adjusted elevation an elevation based on firing and computed to place the center of impact of a round on target. This elevation can differ from TFT elevation because of nonstandard condtions.

adjust fire (1) An order or request to initiate an adjustment. (2) A method of control transmitted in the call for fire by the observer or spotter that indicates he will control the adjustment of the rounds to the target.

adjustment (1) A process used in artillery and naval gunfire to obtain correct direction, range, and height of burst (if time fuzes are used) in engaging a target with observed fire. (2) The actual subsequent correction sent by the forward observer or spotter that is expressed in a LEFT/RIGHT, ADD/DROP, or UP/DOWN format in relation to the actual impact versus the desired impact of a round versus the target.

admin administrative

AF adjust fire

AFDO-AXO assistant fire direction ofiicer-assistant executive officer

AI artillery impact prediction (Firefinder mission type)

aimpoint (1) A point or points on the ground in relation to the target that firing data for munitions are calculated for in order to achieve the desired effects on target. (2) A point on the ground where employment of nuclear weapon(s) achieves the desired target effects without violating the commander's guidance. (3) A point on the ground where FASCAM projectiles are delivered.

aimpt aimpoint

air a spotting or observation by an observer or spotter indicating that a burst or group of bursts occurred before impact.

airburst (1) An explosion of a bomb or projectile above the surface as distinguished from an explosion on impact or after penetration of the surface. (2) A nuclear detonation in the air at a height of burst greater than the maximum radius of the fireball.

alt altitude

AMC at my command

ammo ammuniton

ammunition lot number the code number that identifies a particular quantity of ammunition from one manufacturer. The number is assigned to each lot when it is manufactured.

∡ SI angle of site

angle of departure the vertical angle between the tangent to the trajectory at the origin and the horizontal or base of the trajectory.

angle of elevation the smaller angle at the origin in a vertical plane from the line of site to the line of elevation.

angle of fall the vertical angle at the level point between the line of fall and the base of the trajectory.

angle of site the vertical angle between the level base of the trajectory anchor horizontal and the line of site.

angle T the interior angle formed at the target by the intersection of the observer-target and the gun-target lines.

ANGLICO air and naval gunfire liaison company

AO aerial observer

AOL azimuth of lay

APERS antipersonnel

APICM antipersonnel improved conventional munitions

approx approximate

arg argument

ARTEP Army training and evaluation program

ATACMS Army tactical missile system

AT MY COMMAND (1) Restrictive command used to control time of delivery of fire that prohibits the battery or battalion from firing until directed to do so by the fire direction center. (2) Restrictive method of control used by the observer that prohibits the battery or battalion from firing until directed to do so by the observer.

avg average

axis of tube an imaginary straight line through the center of the bore at the breech end and the center of the bore at the muzzle end.

AZIMUTH a command announced to alert the sections to a large shift in the direction of fire.

B

B behind (DA Form 4757)

ballistic density the computed constant air density that would have the same total effect on a projectile during its flight as the varying densities actually encountered.

ballistics the science or art that deals with the motion, behavior, appearance, or modification of missiles or other vehicles acted upon by propellants, wind, gravity, temperature, or any other modifying substance, condition, or force.

barrel a metal tube through which ammunition is fired, which controls the initial direction of the projectile.

base of trajectory a line extending from the muzzle of the tube that intersects the trajectory at the same altitude as the muzzle.

BATTERY (PLATOON) ADJUST a fire command given to alert all elements of a fire unit to follow the mission to participate in the FFE phase of an adjust-fire mission.

battery center a point materialized on the ground at the approximate geometric center of the battery position; the chart location of the battery.

BATTERY (PLATOON or TROOP) LEFT (RIGHT) a method of fire in which weapons are discharged from the flank designated in a 5-second interval.

BATTERY (BATTALION or PLATOON) 1 (or more) ROUND(S) a fire order command indicating an FFE mission and directing all pieces to fire the designated number of rounds at the data announced in the initial fire command.

BB base bum

BCS battery computer system

BE base ejection (fuze), Belgium

beehive (ammunition) a type of antipersonnel ammunition designed for use in defending a position against massed personnel attack.

BMA battery-minefield angle

boattail the conical section of a ballistic body that progressively decreases in diameter toward the tail to reduce overall aerodynamic drag through increasing its ballistic coefficient.

BOC battery operations center

bourrelet the widest part of the projectile located immediately to the rear of the ogive.

BP base piece

BPAMC by piece at my command

BPBRAMC by piece, by round, at my command

bracketing a method of adjusting fire in which a bracket is established by obtaining an **OVER** and a **SHORT** along the spotting line and then successively splitting this bracket until a target **HIT** or desired bracket is obtained.

BRAMC by round at my command

breechblock a movable steel block that doses the breech of a cannon.

breach ring the breechblock housing that is screwed or shrunk onto the rear of a cannon tube in which the breechblock engages.

btry battery

burster an explosive charge used to break open and spread the contents of chemical projectiles, bombs, or mines.

BUCS backup computer system

C

C^3 command, control, and communications

CA Canada

caliber (1) The inside diameter of the tube as measured between opposite lands. A .45 caliber pistol has a barrel with a diameter of 45/100 of an inch. (2) The diamater of a projectile. (3) An expression of the length of the tube obtained by dividing the length from the breach face to the muzzle by the inside diameter of its bore. A gun tube with a bore 40 feet long (480 inches) and 12 inches in diameter is 40 calibers long.

calibration measuring the muzzle velocity of a weapon and then performing a comparison between the muzzle velocity achieved by a given piece and accepted standard performance.

call for fire a request for fire containing data necessary for obtaining the required fire on a target.

cancel when coupled with an order other than quantity or type of ammunition, rescinds that order.

cannon a complete assembly consisting of an artillery tube, a breech mechanism, a firing mechanism, and a sighting system mounted on a carriage.

cannoneer a member of an artillery gun or howitzer crew whose primary duty is servicing the piece.

CANNOT OBSERVE a method of control in the call for fire from the observer in which the observer or spotter believes a target exists at the given location that is important enough to engage; however, the observer is unable to adjust fire onto the target because of obscuration, mask, and soon.

CAS complementary angle of site

CD compact disk

CDNL cancel do not load

centrifugal force the force acting on a rotating body that forces its parts outward and away from the center of rotation.

CEOI communications-electronics operation instructions

CF command/fire direction (redo net)

CFF call for fire

chap chapter

charge the propellant of semifixed and separate-loading ammunition.

charge group the charges within the propellant type associated with a projectile family, within which MVVs can be transferred.

check firing a command used to cause a temporary halt in firing.

chemical agent a chemical compound which produces incapacitating, lethal, or damaging affects on man, animals, plants, or materials.

chg charge

cld cloud

CLGP cannon-launched guided projectile

COB center of battery

col column

cold stick firing data computed from a graphical firing table with no GFT setting applied.

COLT combat observation/lasing team

comp comparative, complementary

complementary angle of site the correction to compensate for the error made in assuming rigidity of trajectory.

complementary range range confections corresponding to the complementary angle of site. These corrections are tabulated in the TFT and are a function of chart range and height above or below the gun.

complete round a term applied to an assemblage of components designed to perform a specific function at the time and conditions desired to complete the firing chain. Examples of these rounds are *separate loading*, consisting of a primer, a propelling charge, a projectile, and a fuze; and *fixed* or *semifixed*, consisting of a primer, a propelling charge, a cartridge case, a projectile, and a fuze.

computer (1) A mechanical or electromechanical device for solving mathematical problems associated with the development of the gunnery solution (for example, BCS). (2) A fire direction center operator who operates an FDC computer or manually computes data for laying and firing artiliery.

concurrent met a concurrent mat is solved to separate the total corrections determined from a registration into two parts: met corrections and position constants.

CONTINUOUS FIRE a command causing the howitzer crew to continue firing as rapidly as possible, consistent with accuracy and the prescribed rate of fire for the weapon, until the commands **CHECK FIRING, CEASE LOADING,** or **END OF MISSION** are given.

continuous illumination (1) A method of fire in which illumination rounds are fired at specific time intervals to provide uninterrupted lighting of the target. (2) A request from the observer in the call for fire for continuous illumination.

CONVERGED (1) A request from the observer for all rounds to impact at the center of the target. (2) A command in the fire order specifying a special sheaf in which all planes of fire intersect at the same point on the ground (see converged sheaf).

converged sheaf a special sheaf in which each piece fires a unique time, deflection, and quadrant elevation to cause the rounds to impact at the same point on the ground.

cook off the functioning of a chambered round initiated by the heat of the weapon.

coordinated fire line a line beyond which conventional fire support means (FA, mortars, naval gunfire) may fire at any time without additional coordination within the zone of the establishing headquarters. A CFL is designated to expedite fires across boundaries and speed fire support reaction to targets in those areas.

coordinated illumination (1) The firing of illumination rounds to illuminate a target only at the time required for spiting and adjusting HE fires. (2) A request from the observer in the call for fire for continuous illumination.

coppering metal fouling left in the bore of a weapon by the rotating band or jacket of a projectile.

Coriolis effect the change in range or azimuth caused by the rotational effects of the earth.

corr correction

correcton (1) Any change in firing data to bring the mean point of impact of a round closer to the target. (2) A communications proword announcing that an error in data has been announced and that corrected data will follow.

cos cosine

COS center of sector

cot cotangent

COT center of target

CP concrete-piercing (fuze)

Cphd Copperhead

crest a terrain feature of such altitude that it restricts observation of an area or fires into an area on either the ascending or descending branch of the trajectory, resulting in dead space or limitation to the minimum elevation, or both.

CRESTED a report indicating engagement, or observation, of a target is not possible because of an obstacle or intervening crest.

CS chlorobenzaimalononitrile (riot control agent)

CSF complementary site factor

CSR controlled supply rate

CTGPC cancel terrain gun position correction

D

D decrease, down (ROF), destroy (attack guidance matrix)

DA Denmark

dec decrease

defection (1) The setting on the scale of a weapon sight to place the line of fire in the desired direction. (2) The horizontal clockwise angle between the axis of the tube and the line of sight.

deflection index a fine line constructed on a firing chart and used to measure deflection with the range-deflection protractor.

deflection limits the right and left traverse limits that establish the lateral limits of a designated impact area.

deflection probable error the directional error caused by dispersion that will be exceeded as often as not by an infinite number of rounds fired at the same deflection. This value is given in the TFT.

delay action the predetermined delayed explosion of ammunition after the activation of the fuze.

description of target an element in the call for fire in which the observer describes the personnel, equipment, activity, or installation to be taken under fire.

destruction fire (1) An element of the method of engagement potion of the call for fire requesting destruction fire. (2) Fire delivered for the sole purpse of destroying materiel.

deviation (1) The distance by which the burst misses the target. (2) The angular difference between the magnetic and compass headings.

df deflection

DHD did hit data

did hit data are data fired under nonstandard conditions that will cause the round to impact at a point of known location.

diff difference

direction a term used by the observer to indicate the bearing of the observer-target line.

dispersion pattern the dispersion of a series of rounds fired from one weapon or group of weapons under conditions as nearly identical as possible. The points of bursts or impacts are distributed around a point called the mean point of impact.

dispersion rectangle a table that shows the probable distribution of a series of shots fired with the same firing data. This table is a rectangle made into 64 zones. The table shows the percentage of shots expected to fall within each zone.

displ displacement

div arty division artillery

DNL do not load

DOWN (1) A term used in a call for fire to indicate that the target is at a lower altitude than the observation post or reference point used in locating the target. (2) A correction used by the observer to indicate a decrease in the height of burst of a round is needed.

DPICM dual-purpose improved conventional munitions

drag the resistance of the atmosphere to a projectile moving through it. It is directly proportional to the diameter and velocity of the projectile and air density.

drift the lateral deviation of the trajectory from the plane of departure as caused by the rotation of the earth. As a result, the horizontal projection of trajectory is a curved, rather than a straight line. The deviation is always to the right with a projectile having a right-hand spin.

DROP a correction used by an observer to indicate that a decrease in range along the observer-target line is needed.

droop the algebraic sum of barrel curvature, untrueness of the breech quadrant seats, and untrueness in assembling the tube to the breach.

DS direct support

DTG date-time group

E

E east, easting

ed edition

EFC equivalent full charge

EGL elevatiom gauge line

elevate to raise the muzzle or warhead end of the weapon.

elevation the vertical angle between horizontal and the axis of the bore or rail of the weapon required for a projectile to reach a prescribed range.

emplacement (1) A prepared position for one or more weapons or pieces of equipment for protection from hostile fire and from which they can execute their tasks. (2) The act of fixing a gun in a prepared position from which it may be fired.

END OF MISSION an order given to terminate firing on a specific target.

engr engineer

EOL end of orienting line

EOM end of mission

ERDPICM extended range dual-purpose improved conventional munitions

erosion the wear in a howitzer tube which is the result of firing rounds.

ET electronic time (fuze)

ETI elevation to impact

exterior ballistics the study of the phenomena associated with the aerodynamic performance of missiles or projectiles.

F

F Fahrenheit, forward (DA Form 4757)

FA field artillery

fac factor

FASCAM family of scatterable mines

FCI fire control information

FCT firepower control team

FDC fire direction center

FDO fire direction officer

FFE fire for effect

final protective fire an immediately available, prearranged barrier of fire designed to impede enemy movement across defensive lines.

fins aerodynamic surfaces that are attached to missiles or projectiles and are designed to provide stability and control during flight (for example, Copperhead).

FIRE the fire command given to discharge a weapon.

fire control all operations connected with the planning, preparation, and actual application of fire on a target.

fire direction (1) The tactical employment of firepower exercising the tactical command of one or more units in the selection of targets, the concentration and distribution of fire, and the allocation of ammunition for each mission. (2) The methods and techniques used to convert target information into the appropriate fire commands.

fire direction center the element of a commend post consisting of gunnery and/or communications personnel and equipment which receives target Intelligence and requests for fire and converts it into appropriate fire direction and by which the commander exercises fire direction or fire control.

FIRE FOR EFFECT (1) A command to indicate that fire for effect is desired. (2) Fire that is intended to achieve the desired result on target.

FIRE MISSION (1) An order used to sled the weapon or battery area that the message following is firing data. (2) A specific assignment given to a fire unit as part of a definite plan.

fire support coordination line a line beyond which all targets may be attacked by any weapon systems (including aircraft or special weapons) without additional coordination with the establishing headquarters or endangering friendly troops.

fire support team a group of FA observers with the required equipment to plan, request, coordinate, and direct fire support efforts for a company-sized maneuver force.

firing data all data necessary for firing an artillery piece eta given objectve.

firing table a table or chart giving the data needed firing a particular weapon and ammunition accurately on a target under standard conditions. It also gives the corrections needed to compensate for the existence of nonstandard conditions or special conditions such as variations in temperature.

FIST fire support team

fixed ammunition ammunition in which the cartridge case is permanently attached to the projectile.

FLOT forward line of own troops

FM field manual

FO fire order

FO forward observer

fork the change in the angle of elevation necessary to produce a change in range at the level point equivalent to four probable errors in range.

forward line of own troops a line that indicates the most forward location of friendly maneuver forces. The line is designated from left to right, facing the enemy.

forward observer an observer who can observe targets or the burst of attillery shells.

FP firing point

FPF final protective fire

FR France

free fire area an area into which any fire support means may deliver fires or aircraft can jettison munitions without additional coordination with the establishing headquarters. It can be used for an area where neutralization of the enemy by fire support is preferred over the use of maneuver forces.

FS fuze setting

FS fire support

FSCM fire support coordinating measure

FSO fire support officer

FT firing tables

fuze a device used in munitions to initiate detonation.

fuze delay a fuze that has a delay element incorporated into the fuze train.

fuze superquick a fuze that functions immediately upon impact of the projectile with the target.

fuze time (fuze mechanical time superquick) a fuze containing a graduated time element which regulates the time interval after which the fuze will function.

fuze VT see proximity fuze.

fz fuze

G

G/VLLD ground/vehicular laser locator designator

gas check seat on weapons firing separate-loading ammunition, the tapered surface in the rear interior of the tube.

GB green bag

GE Germany

geometry the control lines, boundaries, and other areas used to coordinate fire and maneuver (battlefield graphics are sometimes called battlefield geometry).

GFT graphical firing table

gm/m^3 grams per cubic meter

GMET graphical munitions effectiveness table

GMT Greenwich mean time

graphical munitions effectiveness table provides guidance for determining the expected fraction of casualities to personnel targets or damage to material targets in a graphical format.

graze a spotting by an observer that indicates that a round or group of rounds detonated upon impact versus in the air.

grid (1) Two sets of parallel lines intersecting at right angles and forming squares. The grid is accurately superimposed on maps, charts, and other similar representations of the surface of the earth to permit identification of ground locations and permit the computation of direction and distance to other points. (2) A term used in giving the location of a geographic point by grid coordinates. (3) A fire mission in which target location is sent in grid coordinates.

grid convergence the angular difference in direction between grid north and true north measured from east to west from true north.

grid coordinates numbers and letters of a coordinate system that designate a point on a gridded map, photograph, or chart.

grid line one of the lines in the grid system used to divide the map into squares. East-west lines are X lines and north-south lines are Y lines.

grid magnetic angle (GM angle) the angular difference in direction between grid north and magnetic north measured east to west from grid north. This is sometimes called the gravitation grid variation.

grid north the northerly or zero direction indicated by the grid datum of directional reference.

grid system imaginary lines dividing the earth into sectors to aid in the location of points.

grooves the spiral channels cut in the bore of a gun making up part of the rifling.

GSR general support reinforcing

GST graphical site table

GT gun to target

gun-target line (GT line) an imaginary straight line from the gun to the target.

H

H blister agent (mustard)

HA high angle

HB high burst

HB/MPI high burst/mean point of impact

HC hexachlorothane (smoke)

HCO horizontal control operator

HD blister agent (distilled mustard)

HE high explosive

height of burst (1) The vertical distance from the surface of the earth to the point of burst for a round. (2) The optimum height of burst for a particular target where a nuclear weapon of a specific yield will produce the estimated energy needed to achieve the desired affects on target over the maximum possible area.

HEP-T high-explosive plastic-tracer

high-angle fire fire delivered at elevations greater then the elevation of maximum range of the gun and ammunition concerned. Range decreases as the angle of elevation increases.

high-burst (mean-point-of-impact) registration a registration technique used to determine the mean burnt location of a group of rounds fired with a single set of firing data.

high-order detonation complete and instantaneous explosion.

HIP howitzer improvement program

HMMWV high-mobility multipurpose wheeled vehicle

HOB height of burst

HQ headquarters

ht height

I

I increase (DA Form 4200), immediate (attack guidance matrix)

I/E in effect

IAW in accordance with

ICAO International Civil Aviation Organization

ICM improved conventional munitions

IFSAS initial fire support automated system

illum illumination

inc increase

index a scribed mark on an instrument indicating the number to read.

indirect fire (1) Fire delivered at a target not visible to the firing unit. (2) Fire delivered to a target that is not used as the point of aim for the weapon or director.

interior ballistics the study of the phenomena associated with imparting kinetic energy to missiles.

intervening crest a crest tying between the firing point and the FLOT that is not visible from the firing point that has the capability of affecting target engagement on either the ascending or descending branches of the trajectory. The minimum quadrant elevation needed to dear this crest is the intermediate or intervening crest quadrant elevation.

IS immediate suppression

IT Italy

J

JMEM joint munitions effectiveness manual

joint munitions effectiveness manuals these tables provide guidance for determining the expected fraction of casualties to personnel targets or damage to materiel targets.

jump the displacement of the line of departure from the line of elevation that exists at the instant the projectile leaves the tube.

K

K Kelvin

km kilometer

kn pt known point

L

L left

lands the raised portion between grooves in the bore of a gun making up part of the rifling.

lateral spread (1) An element of the fire order directing that firing data be calculated to place the mean point of impact of two or more guns 1,000 (155 mm) meters apart on a line perpendicular to the gun-target line. (This technique is used with illumination.) (2) An element of the call for fire requesting that the target be engaged with a lateral spread sheaf.

lay (1) To direct or adjust the aim of a weapon. (2) Setting of a weapon for a given range, deflection, or both.

level point point on the descending branch of the trajectory which is at the same altitude as the origin. This is sometimes referred to as the point of fall.

lb pound

LCU lightweight computer unit

LIN line item number

LINE a spotting used to indicate that the burst occurred along the observer-target line.

line of departure a line designated to coordinate the jump-off point for an attack or for scouting elements.

line of elevation the axis of the bore prolonged.

line of sight (1) A straight line joining the origin and a point, usually the target. (2) Line of vision. (3) A straight line between two radio antennas.

link general term used to indicate the existence of communications facilities between two points.

LLHC lower left-hand corner

LMDIRT length (of smokescreen), maneuver target line direction, direction (of wind), time smoke is required (duration) (memory aid)

log logarithm

log logistics

LOS line of site

LOST a spotting used to indicate that the round(s) fired was not observed.

low-angle fire fire delivered at or below the elevation of maximum range for the gun and ammunition concerned.

LTD laser target designator

M

m/s meters per second

man maneuver (attack guidance matrix)

maximum ordinate the difference in altitude between the origin and the summit.

maximum quadrant elevation the greatest vertical angle of the tube for a specific charge which, when fired, will ensure that the rounds impact within the physical boundaries of a predesignated impact area for safety reasons. This angle is generally limited by the mechanical structure of the piece.

MBL mean burst location

MCRES Marine Corps combat readiness evaluation system

MD mortar datum plane (Firefinder mission type)

MDP meteorological datum plane

mean height of burst the average of the heights of burst of a group of rounds fired with the same data.

mean point of impact the arithmetic average of the point of impact of a group of rounds fired with the same data under a given set of conditions.

mechanical time fuze a fuze with a clocklike mechanism controlling the time the fuze will function.

met meteorological, meteorology

met corrections all measurable nonstandard conditions for which we can account

meteorological data meteorlogical facts pertaining to the atmosphere, such as wind, temperature, air density, and so on, that affect military operations.

METL mission-essential task list

METT-T mission, enemy, terrain, troops, and time available

MGP M gauge point

MHL manufacturer's hairline

MI mortar impact prediction (Firefinder mission type)

mil a unit of measure for angles that is based on the angle subtended by l/6400 of the circumference of a circle.

mil relation a gunnery formula expressed as mils = W/R in which roils is the angular measurement in roils between two points, W is the lateral distance (width) in meters between two points, and R is the mean distance in thousands of meters to the points. This relation is approximately true for angular measurements of less than 600 mils.

min minute, minimum

minimum quadrant elevation the minimum vertical angle of the tube for a specific charge which, when fired, ensures the round impacts within the physical boundaries of a predesignated impact area for safety reasons.

minimum range (1) The least range setting of a gun at which the projectile will dear friendly troops or obstacles between if and the target. (2) The shortest distance a gun can fire from a given position with a given charge.

misfire (1) Failure of the propellant to ignite when the firing circuit is complete. (2) Failure to fire or explode properly. (3) Failure of the primer or the propelling charge to function wholly or in part.

mixed a spotting used to indicate that a group of rounds equally detonated both in the air and upon impact.

mixed air a spotting used to indicate that the majority of a group of rounds detonated in the air versus upon impact.

mixed graze a spotting used to indicate that the majority of a group of rounds detonated upon impact versus in the air.

MO maximum ordinate

MOF method of fire

MOS military occupational specialty

mph miles per hour

MPI mean point of impact

msg message

MT maneuver target, mechanical time (fuze)

MTL maneuver target line

MTO message to observer

MTOE modification tables of organization and equipment

MTSQ mechanical time superquick (fuze)

MULE modular universal laser equipment

muzzle velocity the velocity of a projectile at the instant the projectile leaves the muzzle of the weapon.

muzzle velocity variation the change in muzzle velocity from the standard muzzle velocity expressed in meters per second.

MV muzzle velocity

MVCT muzzle velocity correction tables

MVV muzzle velocity variation

N

N north, northing, neutralize (attack guidance matrix)

N/CH nuclear and chemical (attack guidance matrix)

NATO North Atlantic Treaty Organization

NBC nuclear, biological, chemical

NCO noncommissioned officer

NE northeast

neutralization this knocks the target out of the baffle temporarily.

NL Netherlands

NLT not later than

NO Norway

no-fire area restrictive FSCM in which neither fires or the effects of fires are permitted.

northing the northward reading of grid values on a map.

NSN national stock number

number of rounds the part of the fire order or fire command that indicates the number of rounds per tube to fire at a specific target.

NW northwest

O

observation post a position which possesses the appropriate communications and other equipment to make military observations and from which fire is directed and adjusted onto targets.

observed firing chart a chart on which the relative locations must be established by the adjustment of fire.

observer-target line an imaginary straight line from the observer to the target.

observer-target range the measured distance of the OT line.

obsr observer

obturating band a nylon band located below the rotating band that assists in forward obturation. Current projectiles include the illumination, rocket-assisted, and Copperhead projectiles.

obturation any process that prevents the escape of gases from the tube of the weapon during the firing of the projectile.

OF observed fire

offset registration a registration that is conducted by one gun from a position away from the rest of the platoon or battery.

ogive the curved forward part up to and including the tip of the projectile; also called the head.

OIC officer in charge

OL orienting line

on-call targets planned targets, other than scheduled targets, on which fire is delivered when requested.

OP observation post

open sheaf (1) A type of sheaf in which each gun fires a unique time, deflection, and quadrant to cause the rounds to impact in a straight line, perpendicular to the GT line and centered on the target, with bursts spaced one effective burst width apart. (2) A fire order commanding that the target be attacked with an open sheaf.

OPORD operation order

origin of the trajectory the center of the muzzle of a gun at the instant the projectile leaves it.

OT observer to target

OUT (1) In conduct-of-fire procedure, a proword indicating the end of a read back or the end of transmission with the same station expected to transmit. (2) In normal RATELO procedures, a proword indicating the end of transmission with no answer required.

OVER (1) A spotting used to indicate that the burnt has occurred beyond the target along the OT line. (2) In normal RATELO procedures, a proword that indicates the end of a transmission with an answer being expected.

P

PAD provisional aiming data

PADS position azimuth determining system

pantel panoramic telescope

PC personal computer

PCR piece-to-crest range

PD point-detonating (fuze)

PE probable error

PE_D probable error in deflection

PE_{HB} probable error in height of burst

PE_R probable error in range

PE_{RB} probable error in range to burnt

PE_{TB} probable error in time to burst

plt platoon

PMCS preventive maintenance checks and services

POC platoon operations center

point-detonating fuze a fuze that functions immediately upon impact.

POL petroleum, oils and lubricants

polar coordinates (1) The direction, distance, and vertical shift from a known point to another point. (2) The direction, distance, and vertical shift from an observer's location to the target.

polar plot the method of locating a target or point by means of polar coordinates.

pos position, positive

position constants all nonstandard conditions that are difficult to identify, relatively small in magnitude, and remain relatively constant for which we cannot account. The purpose of solving a concurrent met is to isolate the positiom constants.

pract practice

precision registration the determination, by adjustment, of firing data that will place the MPI of a group of rounds on a point of known location.

predicted fire the delivery technique of applying accurately computed corrections (not determined by firing) to standard firing data for all nonstandard conditions (weather, weapon, ammunition, rotation of the earth) to deliver accurate, surprise, nuclear, or nonnuclear fire on any known target in any direction from any weapon limited only by the characteristics of the weapon and ammunition used.

preferred charges the charges that are preferred for measuring and transferring muzzle velocities because of the consistent muzzle velocities produced by these charges.

PRF pulse repetition frequency

probable error (1) An error that is exceeded as often as it is not. (2) The measurement of the impact distribution in the dispersion pattern around the mean point of impact resulting in the development of units of measure (PROBABLE ERROR RANGE, PROBABLE ERROR DEFLECTION) used in the solution of the gunnery problem.

projectile an object projected by the application of exterior force and continuing in motion by virtue of its own inertia such as a bullet, shell, or grenade.

projectile family a group of projectiles that have exactor very similar ballistic characteristics.

propellant that which provides the energy required to place a projectile into motion. Some examples are powder charges and rocket fuel.

propelling charge a powder charge that is set off in a weapon to propel a projectile from the weapon through the action of expanding gases in a confined space produced by the burning of the powder.

propelling increment a distinct portion of a propelling charge designed to permit separation of the charge for range adjustment purposes.

prox proximity

proximity fuze a fuze designed to function when activated by an external influence such as the dose vicinity of the target.

Q

Q quick (fuze)

QE quadrant elevation

QSTAG quadripartite agreement

quadrant elevation the angle between the level base of the trajectory and the axis of the bore when laid. It is the algebraic sum of the elevation, angle of site, and the complementary angle of site.

R

R reinforcing, right (ROF)

RAAMS remote antiarmor mine system

range (1) The distance between any given point and an object or target. (2) The extent or distance limiting the operation of the gun.

range correction a change in firing data necessary to allow for deviation because of nonstandard conditions.

range-deflection protractor a device used to measure chart range and deflection.

range K a correction expressed in meters per 1,000 meters of range to correct for nonstandard conditions.

range probable error the range error caused by dispersion that is exceeded as often as not in an infinite number of rounds fired at the same elevation and is a numerical value given in the TFT. It is one-eighth the greatest length of the dispersion pattern.

range spread (1) An element of the fire order directing that firing data be calculated to place the mean point of impact of two or more weapons 1,000(155 mm) meters apart along the gun-target line (This technique is used with illumination). (2) An element in the call for fire requesting the target be engaged with a range spread sheaf.

RAP rocket-assisted projectile

RATELO radiotelephone operator

RATT record, apply, transfer, tables (rule)

RDP range-deflection protractor

REC radio electronic combat

repeat an order or request to fire the same number of rounds again with the same method of fire.

restrictive fire area a restrictive FSCM in which specific restrictions may not be exceeded or no fires delivered into this area without prior coordination with the establishing headquarters.

restrictive fire line a restrictive FSCM which prohibits fires across it without prior coordination with the establishing headquarters.

restricted charges those charges within a charge group for which it is not preferred to transfer measured MVVs to or from or for which it is not authorized to fire.

RFT rapid fire table

rg range

ROF record of fire

rotating band the soft metal band around a projectile that makes it tit tightly in the bore by centering it, thus preventing the escape of gases and giving the projectile its spin.

round (1) All parts that make up the ammunition necessary to fire one shot (see complete round). (2) One shot expended by a weapon.

rounds complete a term used to report that the number of specified FFE rounds have been fired.

RSTA reconnaissance, surveillance, and target acquisition

RTI range to impact

S

S south, southing, suppression (ROF), suppress (attack guidance matrix)

SDZ surface danger zone

SE southeast

sh shell

SHD should hit data

sheaf planned planes of fire that produce a desired pattern of bursts with rounds fired by two or more weapons.

SHELL (1) Afire command specifying the type of projectile to be used in a fire mission. (2) A request for a specific type of round to be used in a fire mission. (3) A hollow projectile filled with explosives, chemicals, or other material as opposed to shot, a solid projectile. (4) To bombard or fire a certain number of rounds on a target.

shift (1) To transfer fire from one target to another. (2) The deflection difference from one designated point to another designated point used in opening or dosing the sheaf of artillery or mortar units.

SHORT (1) A spotting used to indicate that the round burst short of the target in relation to the OT line. (2) A round that strikes or bursts on the nearside of the target. (3) Around that is fired without sufficient range to reach the target.

SHOT a report that indicates a gun or guns have been fired.

should hit data are data fired under standard conditions that will cause the round to impact at a point of known location.

si site

side spray fragments from a bursting shell that are thrown sideways from the line of sight.

sin sine

smk smoke

SOP standing operating procedures

SP self-propelled

special corrections individual piece corrections applied to time, deflection, and quadrant to place the FFE bursts in a precise pattern on the target.

special sheaf a type of sheaf in which each weapon fires a unique time, deflection, and quadrant to cause the rounds to impact in a specific geometric pattern.

SPLASH a proword transmitted to the observer 5 seconds before the estimated impact of a volley or round of artillery, mortar, or naval gunfire.

spotting the process to determine either visually or electronically the deviations of artillery or naval gunfire from the target in relation to the OT line and supplying this information to the FDC for the purpose of adjustment or analysis of the effects of fire.

spotting line: sea observer-target line.

square a mark or measurement on projectiles used to denote standard weight or deviation from standard weight.

■wt square weight

SR self-registration

ST special text

STANAG standardization agreement

std standard

subcal subcaliber

subsequent met a subsequent met is solved to determine new met corrections that are applied to the position constants from a previous met to determine new total corrections.

supplemental charge a TNT-filled cylindrical container usually used in deep cavity projectiles to fill the void between the fuze, booster combination, and the booster charge.

suppression this limits the ability of enemy personnel to perform their mission.

surveyed firing chart a chart on which the location of all required points are plotted.

sustained rate of fire the actual rate of fire that a weapon can continue to deliver for an indefinite length of time without seriously overheating.

SW southwest

sw switch

sweep fire a method of fire where weapons fire a constant quadrant elevation with several deflections in direct relation to the direction of fire.

T

TA target acquisition

TAB target acquisition battery

TAG target above gun

tan tangent

target analysis the examination and evaluation of an enemy target situation to determine the most suitable weapon, ammunition, and method required to defeat, neutralize, of otherwise disrupt, delay, or limit the enemy.

target grid a device for convecting the observer's target locations and corrections in respect to the OT line to corrections and target locations in respect to the GT line.

TBG target below gun

terrain gun position corrections precomputed individual piece corrections applied to the gunner's aid on the panoramic telescope and the correction counter on the range quadrant of each piece.

TF time of fight (GFT scale)

TFT tabular firing tables

TGL time gauge line

TGPC terrain gun position correction

tgt target

ti time

time of flight the time in seconds from the time a projectile leaves the muzzle until it bursts.

time on target a restrictive command that allows the FDO or FDC to control the time the rounds will impact at the target.

TLE target location error

tml vel terminal velocity

TNT trinitrotoluene

TOC tactical operations center

TOE tables of organization and equipment

TOF time of fight

TOT time on target

TRADOC US Army Training and Doctrine Command

trajectory the path traced by a projectile in fight.

transfer limit the maximum difference in direction and range from a location or checkpoint within which corrections for the checkpoint are assumed to be sufficiently accurate to warrant application to any target justifying its attack by a transfer of fire.

transitional ballistics the study of the transition from interior to exterior ballistics.

TU Turkey

tube wear wearing away of the interface of the bore as a result of the combined effects of gas, washing, scoring, and mechanical abrasion, which causes a reduction in muzzle velocity.

U

U up (ROF)

UBL unit basic load

UCARET unit (that fired registration), charge (fired during the registration and for which GFT setting applies), ammo lot (used in registration), range ([chart or achieved] from the howitzer to point of known location), elevation (adjusted or did hit), time (adjusted or did hit fuze setting) (memory aid)

UK United Kingdom

UP (1) A term used to indicate that the target is higher in attitude than the OP or reference point used to locate it. (2) A correction used to indicate that an increase in the height of burst is required.

US United States

USAFAS US Army Field Artillery School

USDA up, subtract; down, add (memory aid)

USMC United States Marine Corps

UTM universal transverse mercator

V

VCO vertical control operator

VE velocity error

vertical angle the angle measured vertically, up or down, from a horizontal plane of reference and expressed in plus or minus in roils depending on whether the position is above or below the horizontal plane.

vertical clearance the vertical distance by which a projectile must dear an intervening crest.

vertical interval (1) The difference in altitude between two specified points or locations, such as the battery and a target. (2) The difference between the height of the weapon and the desired burst point.

VI vertical interval

VT variable time

VX nerve agent (persistent)

W

W west, westing

WB white bag

WP white phosphorus

WR when ready

Y

yaw the angle between the direction of motion of the projectile and the axis of the projectile-right, down, left, and up.

Z

zone fire a method of fire where the weapons fire constant deflections with several different quadrants in direct relation to the direction of fire.